

REMARKS/ARGUMENTS

Reconsideration of the above-identified application is respectfully requested in view of the foregoing amendments and the following remarks.

Claims 1, 5 - 11, and 13-81 remain in the case.

Claims 1, 5 – 11, and 13-81 are amended.

The independent claims are amended to more particularly state that the transmitted information defines a unique range of data from a receiving node to a sending node, with consistent amendments throughout. Therefore, the authorization data transmitted is not merely a number of bytes to be transmitted, but a specific range of data.

All of the claims are amended for clarity, and to assure a broad range of claim scope consistent with the arguments presented herein.

Due to the number of amendments, applicants have provided a courtesy “clean copy” attached hereto.

The claims of the invention are drawn to a system and method for transporting data in a communications network using credits and negative acknowledgements, wherein the credits specify a range of data to be transmitted. Therefore, the system operates not only to control a flow of data, but also controls which data is to be communicated.

The inventive method is particularly useful in a communications network where the full extent of TCP’s fault tolerance is unnecessary and inefficient. A novel method of issuing credits from a receiver to a sender is used, wherein rather than the issued credit indicating merely a number of bytes that may be transmitted, the credits indicate specific ranges of data to be transmitted. Failure of a credit packet to arrive at the sender does not necessarily impede the overall data communication process as the sender may infer credits for earlier ranges of data upon receipt of a credit for a later range of data. In addition, a unique application of a negative acknowledgement (NAK) system may minimize the number of bytes that must be retransmitted when an error is detected. Unlike systems of the prior art that typically require transmission of complete blocks of data, retransmission of only missing or corrupt bytes is required. Using implications arising from the novel credit system, the buffer control logic is simplified.

Claims 1, 6, 11, 14, 15, 77, 78, and 81 were rejected under 35 U.S.C. §102(e) as being anticipated by FORIN (US 6,594,701). FORIN teaches a system wherein credits issued by a receiver are used to control transmission of data from a transmitter to a receiver. However, in the

FORIN system, the credits specify only the number of bytes that may be transmitted and do NOT identify a particular range of bytes in a data stream. This approach has many limitations that are overcome in the novel approach of the present invention.

Claims 16 - 27, 29, 31 - 45, 47 - 65, 67 - 76, 79 and 80 were rejected under 35 U.S.C. §103(a) as being unpatentable over FORIN in view of DUNNING et al. (US 6,683,850). DUNNING et al. is cited for its showing of negative acknowledgements.

The independent claims are clearly distinguished from these references, alone or in combination, since each expressly requires that the credits specify the range of data to be communicated. The Examiner admits that the interpretation of the “range of bytes” of FORIN only extends to a successive group of bytes, while the presently amended claims require a specific group of bytes requested by the receiving node.

Claim 1 provides, inter alia, a method which includes the steps of:

“initially transmitting first information defining a first unique range of data from a receiving node to a sending node, said first information authorizing transmission of a first quantity of data from said sending node represented by a quantity of data within said first unique range of data of a data stream;…

transmitting second information defining a second unique range of data from said receiving node to said sending node when an event occurs, said second information authorizing transmission of a second quantity of data from said sending node represented by a quantity of data within said second unique range of data of said data stream;…”

Claim 19 provides:

“...(i) transmitting credits from a receiving node to a sending node responsive to occurrence of an event, said credits specifying a second unique range of data to be transmitted;

(ii) transmitting a specified range of data of a data stream from said sending node to said receiving node, corresponding to a range of data specified in credits received by said sending node from said receiving node;…”

Claim 39 provides:

“...a) means for transmitting a range of data of a data stream from a sending node to a receiving node, said range of data being specified by a range of data credits present at said sending node;

b) means for transmitting a number of data credits specifying a the range of data of

said data stream from said receiving node to said sending node upon occurrence of at least one event;....”

Claim 57 provides:

“...b) a first transmitter for transmitting an amount of data of a data stream from a sending node to a receiving node, corresponding to a range of data specified by credits present at said sending node, ...;

c) a second transmitter for transmitting credits from said receiving node to said sending node when a predetermined event occurs, said credits specifying a range of data sought to be received;”

Applicants' prior arguments are therefore believed to be appropriate and clearly directed to the claim limitations. Reconsideration of the rejections is respectfully requested.

Applicants believe that claims 1, 5 - 11, and 13 - 81, as amended, are now allowable and therefore respectfully request that they be allowed and the application passed to issue.

Respectfully submitted,



Steven M. Hoffberg
Reg. 33,511

Milde & Hoffberg LLP
Suite 460, 10 Bank Street
White Plains, NY 10606
(914) 949-3100